Phase Diagram of square lattice S=1 Mott insulators[1] JULIA
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— We study the phase diagram of a spin-1 Heisenberg Model with both 2 and
4 spin bilinear-biquadratic interactions on the square lattice. This model can be
simulated sign-problem free with means of a Stochastic Series Expansion Quantum
Monte Carlo (SSE QMC). We study the competition between the Neel, quadrupo-
lar, valence bond solid and Haldane phases, and the nature of the quantum phase
transitions between these states of matter.

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